NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

RECREATION AREA IMPROVEMENT

(Acre)

CODE 562

DEFINITION

Establishing grasses, legumes, vines, shrubs, trees, or other plants or selectively reducing stand density and trimming woody plants to improve an area for recreation.

PURPOSE

To increase the attractiveness and usefulness of recreation areas and to protect the soil and plant resources.

CONDITIONS WHERE PRACTICE APPLIES

On any area planned for recreation use.

QUALITY CRITERIA

Follow guidelines in Appendix 1 of this standard.

CONSIDERATIONS

Debris should be removed from the site and disposed properly if the debris will cause insect, disease, fire, or operability problems.

Wildlife needs should be considered when selecting tree or shrub species. Species diversity, including use of native species, should be considered.

PLANS AND SPECIFICATIONS

Specifications for applying this practice shall be prepared for each site and recorded using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan, or other acceptable documentation.

The following will be in the conservation plan narrative (as appropriate):

Type and purpose of recreation area improvement

Size of recreation area improvement

Field location Plan view

Soil amendments (if needed)

Site preparation methods (if used)

Plant Species

- Plant Guides
- Plant Sheets

Stock size

Spacing

Seeding rates

Planting method(s)

Planting dates

Competition suppression

Protection methods

Cultural practices (i.e. pruning, forest stand improvement, etc.) (if any)

Fencing

Erosion control – blanket/mulch

Operation and Maintenance Plan

Replacement strategies

OPERATION AND MAINTENANCE

The following actions shall be carried out to insure that this practice functions as intended throughout its expected life. These actions include normal repetitive activities in the application and use of the practice (operation), and repair and upkeep of the practice (maintenance):

- Replacement of dead trees or shrubs.
- Competitive vegetation will be controlled when it inhibits the renewed growth and vigor of plantings.
- Supplemental water will be provided as needed.
- The trees and shrubs will be inspected periodically and protected from adverse impacts including insects, diseases or competing vegetation. The trees or shrubs will also be protected from fire and damage from livestock or wildlife.
- Additional thinning, pruning, may be needed in the future to maintain function.
- Periodic applications of nutrients may be needed to maintain plant vigor.

APPENDIX 1

SPECIFICATIONS GUIDE

Treatments, plant materials, and maintenance measures for various types of recreation areas are as follows:

I. Grasses and Legumes

A. Stabilization of critical areas

Refer to Standard and Specification (342) Critical Area Planting.

B. Athletic Fields, Playgrounds, and Other Play Areas

1. Control of Excess Water

Divert water from play area, grade to insure surface drainage, install tile drains to help eliminate surface water, seeps, and improve internal drainage where needed. (See Specifications for Subsurface Drains (606) and Recreation Land Grading and Shaping (566)).

2. Lime

Apply limestone to maintain pH of 6.0 to 6.5. Lime should be applied uniformly and mixed thoroughly with the soil (disc at least once).

3. Fertilizer

Apply fertilizer according to soil test. Without test, apply 1,000 lbs. 10-20-20 or equivalent per acre. Mix Fertilizer with soil by disking. Maintenance: Apply 500 lbs. 10-10-10 annually.

4. Level seedbed using spring-tooth harrow followed by cultipacker.

5. Seed Mixture:

a. Tall Fescue and	80 lbs. P/A
Kentucky bluegrass	20 lbs. P/A
b. Tall fescue and	40 lbs. P/A
Kentucky bluegrass	20 lbs. P/A
And Red fescue	20 lbs. P/A
c. Tall Fescue	100 lbs. P/A
d. Bermudagrass	40 bushels P/A

6. Time of Seeding

Seed early spring as soon as seedbed can be prepared. May be seeded in August or September if use of the area can be controlled until sod is established.

7. Method of Seeding

Broadcast with cyclone seeder or cultipacker seeder. When using a cyclone seeder, apply one-half seed, change direction to seed remaining half at right angle to first seeding. Bermudagrass may be seeded or slot planted to establish rhizomes.

8. Mulch

2 to 2-1/2 tons straw per acre (clean small grain straw is preferred to reduce weed competition).

9. Mow first when grass is 3 to 4 inches high.

C. Lawns, Fairways, Tees, Roughs, and Other Turf Areas (does not include golf greens)

1. Drainage

Construct waterways to eliminate excess surface water. Tile drains may be needed to eliminate seeps and improve internal drainage. (See Specifications for Subsurface Drains (606) and Grassed Waterways (412)).

2. Lime

Apply limestone to correct pH to 6.0; limestone should be mixed with soil.

3. Seedbed preparation

Soil should be tilled to a minimum depth of 3 inches. Disc plows, tandem discs, spring tooth harrows, and hand tools may be used.

4. Fertilizer

Apply as per soil tests, without tests apply as follows:

Lawns
New seeding – apply 1000 lbs. per acre 10-10-10 or 12-12-12 per acre. This is 24 lbs. per 1,000 square foot. Maintenance: Apply 500 lbs. 10-10-10 or equivalent per acre, or 12 lbs. per 1,000 square foot annually. Fertilizer may be applied in fall (September or October) or spring (April). To obtain most uniform growth, fertilizer should be applied twice annually.

Fairways
New Seeding – apply 1,000 lbs. 10-10-10 per acre.

Rough Areas
New seeding – apply 500 lbs. 10-10-10. Maintenance on native vegetation: 500 lbs. 10-20-10 every two years. Maintenance on newly seeded areas: Apply 300 to 500 lbs. 10-10-10 annually.

Tees
New seeding – apply 1,500 lbs. 10-10-10 prior to seeding and mix with soil. This is 35 lbs. per 1,000 square foot.

Maintenance
Apply 1,200 lbs. 10-10-10 per acre in April or October. This is 28 lbs. per 1,000 square foot.

5. Seed Mixture - lawns

Full Sun

Kentucky bluegrass	80 lbs. P/A
Red fescue	20 lbs. P/A

Full Sun

Kentucky bluegrass	55 lbs. P/A
"Pennlawn" red fescue	20 lbs. P/A
Merion bluegrass	13 lbs. P/A

Full Sun

Tall Fescue	80 lbs. P/A
Kentucky bluegrass	20 lbs. P/A

Full Sun

Tall Fescue	100 lbs. P/A

Shaded Areas

Red fescue	80 lbs. P/A
Kentucky bluegrass	20 lbs. P/A

Shaded Areas

"Pennlawn" red fescue	55 lbs. P/A
Kentucky bluegrass	20 lbs. P/A
Merion bluegrass	10 lbs. P/A/
Red top	10 lbs. P/A

These rates are approximately 2 to 3 lbs. per 1,000 square foot.

Seed Mixture - fairways

Full Sun

Kentucky bluegrass	65 lbs. P/A
Red fescue	20 lbs. P/A

Kentucky bluegrass	55 lbs. P/A
Red fescue	20 lbs. P/A
Red top	15 lbs. P/A

Shaded Areas

Red fescue	65 lbs. P/A
Kentucky bluegrass	20 lbs. P/A

Red fescue	55 lbs. P/A
Kentucky bluegrass	20 lbs. P/A
Red top	15 lbs. P/A

Seed Mixture – roughs and other areas – suggested rates, seed one of the following:

Tall fescue (Ky 31 or Alta)
65 lbs. P/A 1.5 lbs. per 1,000 sq. ft.

Orchardgrass
43 lbs. P/A 1.0 lbs. per 1,000 sq. ft.

Tall oatgrass
32 lbs. P/A .75 lbs. per 1,000 sq. ft.
Smooth bromegrass
32 lbs. P/A .75 lbs. per 1,000 sq. ft.

Timothy

21 lbs. P/A .5 lbs. per 1,000 sq. ft.

Seed Mixture - tees

Kentucky bluegrass	3 lbs. per 1,000 sq. ft.
Red fescue	3 lbs. per 1,000 sq. ft.
Tall fescue	4 lbs. per 1,000 sq. ft.

6. Time of Seeding:
Late summer or early fall is the best time to seed permanent turf grasses.

For Land Resource Areas; 126 (Ohio-Monongahela Hills), 147 and 128 (Northern and Southern Appalachian Ridges and Valleys) – the recommended time of seeding is September 1 to October 15. For spring seedings, seed no late than May 1.

For Land Resource Area 147 (Allegheny Plateau) – the recommended time of seeding is August 15 to October 1. For spring seedings, seed no later than May 20.

7. Method of Seeding:
Broadcast seed – seed in two directions. One half of seed will be seeded at right angles to the other half. This will insure uniform distribution of seed.

8. Rolling or Packing:
Roll with at minimum a 200 lb. Roller or cultipacker to form seedbed and to cover seed lightly one-fourth to one-half inch deep.

9. Mulch:
Apply clean straw about 1-1/2 to 2 tons per acre, approximately 25 percent soil should show through straw.

10. Mowing:
Mow as frequently as required to maintain specified height. Do not remove more than one-fourth to one-third leaf area at one clipping.

a. For lawns: Bluegrass, Red fescue and Red top – 1-1/2 to 2 inches high. Tall Fescue – 3 inches high.

b. For fairways: Mow Bluegrass-Red Fescue about 1 inch high.

c. Tees and roughs: Mow tall fescue to 3 or 4 inches height or to the height required by course design.

11. Sodding:
On all areas – used on situations where a mature wear resistant turf is needed in a relatively short time – small lawns, greens, tees, and critical area where quick establishment is needed.

a. Lime and fertilizer application required and the preparation of the site prior to sodding are the same as for seeding. Fertilize according to soil test requirements. In lieu of soil test figure, liming rate to correct pH 6.0 – 6.5. Apply 1,000 lbs. 10-10-10 per acre. Mix with soil to depth of 3 inches.

b. Strip of sod, mostly Kentucky bluegrass, should be cut as thin as possible, 1 to 1-1/2 inches thick, and about 12 inches wide, and 3 to 4 feet long.

c. Time to Sod: Sodding can be done at any time during the growing season if sod is properly handled and watered. Late spring is the most desirable time.

d. Sod should be placed so that the joints of two courses of sod do not coincide.

e. Tamp or roll sod lightly to insure good contact with soil beneath sod and then water thoroughly.

f. Fill any opening between strips of sod with soil, sand, and other material to prevent excessive drying of sod at these spots.

g. When moisture is deficient, new sodded areas should be watered until sod is well rooted. Newly placed sod

should be maintained in a moist condition for 30 days.

II. Trees and Shrubs

A. Selection of specimens of native plants for transplanting.
Select young plants growing in full sun on a site similar to the intended planting site.

1. Young plants are more satisfactory for transplanting than old plants.

2. Nursery stock is more suitable for transplanting than natural grown specimens.

B. Time of planting and method of digging.

1. Transplant trees and shrubs during the dormant season.

   a. Most small deciduous plants can be moved bare-rooted.

      (1) Dig plants carefully with a sharp spade. Begin far enough away from the plant to save most of the fibrous roots. Use a sharp axe to cut large roots with a slanting cut. Trim damaged roots and excessively long roots with a sharp knife.

      (2) Keep roots of plants moist. Cover with moss, sawdust, or other moist material until planted.

   b. Large evergreens and large deciduous plants should be moved with a ball of earth. The size of the ball of earth depends upon species and the size of plants to be moved.

TABLE 1
Guide for Lifting Balled Plants

Evergreens

Height of Plant	Diameter of Ball
2’-3’	13”
3’-4’	15”
4’-5’	17”
5’-6’	19”
6’-7’	21”
7’-8’	24”
8’-9’	26”
9’-10’	28”
10’-12’	31”
12’-14’	35”
14’-16’	40”

Shrubs & Small Trees

Height of Plant	Diameter of Ball
18”-24”	11”
2’-3’	12”
3’-4’	14”
4’-5’	16”
5’-6’	18”
6’-7’	20”
7’-8’	22”
8’-9’	24”
9’-10’	26”

Shade Trees

Diameter of Tree	Diameter of Ball
$1^{1/4}$-$1^{1/2}$”	18”
$1^{1/2}$-2”	22”
2-$2^{1/2}$”	24”
$2^{1/2}$-3”	28”
3-$3^{1/2}$”	33”
$3^{1/2}$-4”	38”
4-$4^{1/2}$”	43”
$4^{1/2}$-5”	48”

2) To lift plants, the soil should be moist but not excessively wet. When soil is dry, water thoroughly at least two days before digging. Plants should not be lifted when soil is frozen.

(3) For dug stock where ball of earth is 16” in diameter or less, use a sharp spade, cut straight down all around the plant.

Break the ball of earth loose by prying under one side.

(4) Protect dug stock from wind and sun and keep moist by watering every two days until planted.

C. Planting

1. Bare Rooted Plants

   a. Dig holes at least 24 inches wider than the root system. Plants should be set as close as possible to the same depth as they grew originally.

   b. Fill around the plant with good soil material. Pack firmly around roots.

   c. Water thoroughly when hole is half filled with soil. Allow to settle and finish filling the hole, leaving a saucer-shaped depression around the plant. Water until the hole is filled.

2. Balled with Burlap Plants

   a. For plants balled with burlap, dig a hole 20 inches wider than the diameter of ball and as deep as the root ball.

   b. Plants should be set at the same height they grew originally.

   c. Fill around the ball of earth with good soil material. Water when hole is about half filled and allow to settle. Finish filling hole. Water until backfill is moist.

D. Care After Planting

1. Anchor trees only in areas where high winds, the height of the tree, or the condition of the roof system will not allow the tree to stand on its own. Protect trunks where anchors are fastened. Leave anchors for only one year.

2. Mulch with leaf litter, pine straw, shredded bark or twigs, peat moss, or composted wood chips 2” to 4” deep over the area disturbed during the planting.

3. Water frequently during the first growing season during periods of low rainfall. This is especially important for evergreens.

E. Fertilizer

1. The use of fertilizer in the backfill at the time of planting is not recommended.

2. Apply fertilizer, in the according to soil test results. Fertilizer is best applied in the fall or early spring, although it is not harmful to apply fertilizer at any time during the year. In the absence of soil test results, apply a slow release fertilizer containing 5% potash, and trace elements.

3. Fertilizer should be applied within the drip line of the plant at the rate of one cup per caliper-inch for trees and ½ cup per foot of height for shrubs.

4. Fertilizer application once every two to three years will usually suffice.

III. Pruning and Thinning Woody Plants

A. <u>Pruning</u>: Trimming Woody Plants
See Tree/Shrub Pruning (660).

Table 2 contains pruning guides for recreational uses.

1. Remove dead limbs at all recreation use sites.

2. The extent pruning is needed will be more easily determined when foliage is full.
3. Pruning limbs back to the tree trunk is recommended – but when only a lateral is involved it can be pruned back to the main limb.

Table 2. Pruning Guides for Recreational Uses

Recreational Use	Pruning Guides
Vistas or Scenic Overlooks	As needed to open view
Trails and Walkways	Remove limbs extending within one foot of outside edge of shoulder. Hiking – to about 8 feet high. Horseback – to 12 feet high.
Camping area (tent & trailer)	In addition to clearing the individual site, remove limbs up to 8 feet around picnic tables and fire places; 10 feet where the tent and trailer will be.
Access Roads and Parking Spurs	Remove limbs within 2 feet of the outside edge of the shoulder. Up to 12 feet clearance should be adequate.
Picnic Areas	Up to 8 feet clearance should be adequate.
Buildings	Four feet clearance – side and roof.

B. Thinning: Selectively reducing stand density.

1. Picnic areas – to increase sunlight on the ground to improve grass cover. In hardwoods stands, DX3 guide should be used, and in conifers use DX2.5. This guide applies to dominant and co-dominant trees. For example, the average diameter of the trees in inches in the picnic area times 3, answer in feet, is the average distance between trees. Select desirable trees to keep and thin the area accordingly. Some

desirable species to keep are sugar maple, oaks, ash, white pine, red pine, white and red spruce, and flowering species of trees and shrubs, such as red bud and dogwoods.

2. Campsites – thinning immediately around the site may be desirable for at least 2 purposes:

   a. to open the canopy for better grass growth

   b. to open the canopy to create a dense shrubby growth for barriers

   Thinning and pruning to permit the morning sun and afternoon shade on the campsite is very desirable. The DX3 method is applicable here also. Attempt to achieve 40 to 50 percent canopy cover.